## ABSTRACT OF THE DISCLOSURE

A semiconductor memory device that includes a composite Al<sub>2</sub>O<sub>3</sub>/HfO<sub>2</sub> dielectric layer with a layer thickness ratio greater than or equal to 1, and a method of manufacturing the capacitor are provided. The capacitor includes a lower electrode, a composite dielectric layer including an Al<sub>2</sub>O<sub>3</sub> dielectric layer and an HfO<sub>2</sub> dielectric layer sequentially formed on the lower electrode, the Al<sub>2</sub>O<sub>3</sub> dielectric layer having a thickness greater than or equal to the HfO<sub>2</sub> dielectric layer, and an upper electrode formed on the composite dielectric layer. The Al<sub>2</sub>O<sub>3</sub> dielectric layer has a thickness of 30-60Å. The HfO<sub>2</sub> dielectric layer has a thickness of 40Å or less.

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